BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

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Application of Southern California Edison Company (U 338-E) for Approval of the Results of Its 2013 Local Capacity Requirements Request for Offers for the Moorpark Sub-Area.	Application 14-11-016 (Filed November 26, 2014)

PROTEST
OF THE
WORLD BUSINESS ACADEMY

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January 12, 2015

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In accordance with the provisions of Rule 1.4 of the Rules of Practice and Procedure of the California Public Utilities Commission ("Commission"), the World Business Academy hereby protests the Application of the Southern California Edison Company ("SCE") for authority to enter into a power purchase agreement with NRG Energy Center Oxnard LLC ("NRG Oxnard"), which was submitted to the Commission for approval as part of SCE's Application for Approval of the results of its 2013 Local Capacity Requirements ("LCR") Request for Offers ("RFO) for the Moorpark sub-area. The Academy also protests the proposed 54MW "Ellwood Refurbishment Project," to be developed by NRG California South LP and referenced on pages 3 and 57 of the public testimony accompanying SCE's Application in this proceeding.

I. THE ACADEMY'S INTEREST IN THIS PROCEEDING

The World Business Academy (the "Academy") is a public-benefit corporation that has no direct economic interest in the outcome of this proceeding. The Academy formally began investigating the various issues associated with energy infrastructure in 1995, which it followed with a book (*Profiles in Power*) on the subject in 1997, and a lengthy, well-researched, and footnoted chapter on the subject in its book (*Freedom From Mid-East Oil*) published in 2007. In addition to those two books, the Academy has published more than a dozen articles on the subject of energy up to the present time in various journals, both domestically and abroad, including the American Bar Association journal.

The main purpose of the Academy's intervention in this proceeding is to help the Commission find the optimal path forward to realize California's aggressive clean energy goals, including achieving or possibly surpassing the current 33% renewable portfolio standard ("RPS") by 2020, and the 50% RPS announced last week by Governor Brown in his 2015 Inaugural Address, as well as the reduction of all anthropogenic greenhouse gas ("GHG") emissions by 2050 to a level that is 80% less than the level of emissions that existed in 1990.[1] The achievement of this second goal, in particular, will require dramatic changes in the way in which we generate energy and utilize the renewable and fossil fuel resources that we have come to depend on as part of our advanced, technology-based way of life. Moving systematically towards this goal, one of the most fundamental technological shifts that we, as a society, can and should make as quickly as possible is to

[1] See Gov. Brown's 2015 Inaugural Address, January 5, 2015 (http://gov.ca.gov/news.php?id=18828). See also SB 32, introduced on December 1, 2014 by State Sen. Fran Pavley (http://legiscan.com/CA/bill/SB32/2015).

replace fossil fuels with hydrogen as the predominant medium for storing and generating energy.

Hydrogen, when used in mobile and stationary fuel cells, is the ultimate fuel to replace fossil fuels in generating energy for transportation, residential, and commercial electricity needs. Moreover, unlike finite fossil fuels, the amount of available hydrogen is virtually limitless, comprising 75% of all the molecules in the known universe. The technology to capture and store hydrogen through the electrolysis of water is well established, and with sufficient economies of scale, a hydrogen-based energy economy will be less expensive, more reliable, and dramatically cleaner than continued reliance on fossil-fuel-based technologies. Most importantly, the electricity needed to electrolyze hydrogen from water, including waste water, can be generated from 100% renewable wind, solar, and geothermal energy, the volume of which is only limited by the infrastructure developed to collect these abundant resources, and the cost for these renewable resources will continue to significantly drop over time as has already occurred in the last decade.

The Academy has sought to use its business expertise and prominent network of Fellows to educate and thereby encourage businesses to understand the connection between environmentally and socially responsible business practices and a renewed and expanded economy. For example, through its free public monthly radio show (*New Paradigms in Business*, A Commentary on Business and Society), the Academy analyzes and advocates "best business practices" with respect to energy sources and use, educating

business and the public about the strengths and weaknesses of each form of energy, the appropriate mix of energy sources, the benefits and drawbacks of various sources of energy supply, and the externalized costs of various energy sources.

The Academy's interests are not represented by any other party to this proceeding, and its participation in the proceeding will be directly relevant to the issues raised by SCE's Application.

II. PROTEST

The Academy does not protest SCE's desire to enter into contracts to meet the local capacity requirement need identified in Commission Decision D.13-02-015 (the "Track 1 decision") in the Commission's 2012-2013 Long-Term Procurement Planning ("LTPP") proceeding. Furthermore, the Academy does not protest the proposed 6 MW of energy-efficiency resources to be procured from Onsite Energy Corporation, the proposed 5.66 MW of renewable DFG to be provided by Solar Star California, or the proposed 0.5 MW of energy storage to be provided by NRG California South LP. However, the Academy ***does*** protest all of SCE's proposed contracts for gas-fired generation, which amounts to 262 MW out of a total of 274.16 MW (95.56%) to be procured pursuant to this Application.[2]

It is outrageous and incomprehensible that in these times in which civilization faces

[2] When including the proposed 54MW "Ellwood Refurbishment Project," referenced on pages 3 and 57 of SCE's public testimony, the amount increases to 316MW out of a total of 328.16MW (96.29%) requested for procurement. See A.14-11-016, Testimony of Southern California Edison Company (U 338-E) on the Results of its 2013 Local Capacity Requirements Request for Offers (LCR RFO) for the Moorpark Sub-Area – Public Version ("SCE Testimony"), November 26, 2014.

a constantly accelerating threat of extreme consequences from climate change due to greenhouse gas ("GHG") emissions from the combustion of fossil fuels, SCE has the appalling lack of enlightenment, as well as the craven disregard towards California's well-established clean-energy policies, to propose to procure **96%** of the resources needed to meet the identified local capacity requirement ("LCR") of the Moorpark sub-area of SCE's Big Creek/Ventura local reliability area encompassing most of Ventura and Santa Barbara counties (the "Moorpark Sub-Area") with traditional gas-fired resources.

Simply put, the two gas-fired projects that SCE proposes to procure -- specifically the 262 MW single-cycle combustion turbine sponsored by NRG Energy Center Oxnard LLC ("Oxnard") as well as the proposed 54 MW refurbishment of the existing Ellwood peaker plant by NRG California South LP (intended to address reliability concerns in the Goleta area) -- are the worst possible choices to meet the identified LCR and related reliability needs. Given California's policy to achieve dramatic reductions in GHG emissions over the next 35 years, it would be irresponsible, imprudent, and unwise, as well as directly contrary to State policy, for this Commission to approve yet more conventional gas-fired generation facilities to meet system reliability needs when numerous developed technologies enabling the capture, storage, and strategic generation of renewable energy are readily available on the market.

These other developed technologies: (i) have fewer environmental externalities than gas-fired peakers;[3] (ii) will actually move the State forward towards meeting its ambitious

[3] To be specific, fuel cells, even when operating on natural gas, emit virtually no oxides of nitrogen

clean energy goals (an objective gas-fired peakers are incapable of achieving); and (iii) will not, in the long term, expose ratepayers to the intrinsic price volatility of finite natural gas resources, or paying for "stranded assets," should these natural gas peaking plants require decommissioning well before the end of the useful lifespan due to their inflexible emissions profile and/or the exorbitant price to retrofit them to reduce their emissions signature.

Rather than relying exclusively on inefficient traditional gas-fired peaker plants, SCE should research and make a serious, credible effort to enter into contracts for the distributed installation of advanced fuel cell plants, which can initially be operated using natural gas, then easily converted to use renewable-based hydrogen as a feedstock upon development of sufficient infrastructure to manufacture hydrogen from surplus generated renewable energy. Such plants, when combined with other proven technologies (including lithium-ion and/or redox/hybrid flow batteries) capable of instantly providing dispatchable power, will provide the nucleus and foundation towards the development of a community microgrid system that is 100% reliable and immune to the inherent vulnerabilities and limitations of our current, antiquated system of centralized energy generation and transmission.

In this context, it should be noted that the University of California, Irvine is home to the National Fuel Cell Research Center ("NFCRC") which "was dedicated in 1998 by

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which, when emitted by gas-fired combustion plants, contribute to exceedances of the ambient air quality standard for ozone in adjacent areas (this standard is currently exceeded on a regular basis in many areas of Southern California), and do not emit fine particulate matter, which have a direct and adverse impact on the health of adjacent populations exposed to the emissions from such plants.

the U.S. Department of Energy and the California Energy Commission to accelerate the development and deployment of fuel cell technology, to provide an outreach to the market, to address market hurdles, and to provide leadership in the preparation of educational materials and programs throughout the country."[4] One application of fuel cell technology advocated by the NFCRC relates to the concept of a TIGER ("Transmission Integrated Grid Energy Resource") Station as a viable distributed alternative to gas-fired peaker plants that is capable of providing local grid support at key points in the distribution system.[5]

Such a proactive approach stands in stark contrast to the reflexive measures presently proposed by utilities, in which single-cycle natural gas peaker plants (basically jet engines strapped to concrete pads) are offered as the only viable solution to the complex equation presented by the intermittency of some forms of renewable energy. Complex problems are rarely solved by overly simplistic solutions and the Academy vehemently asserts that the "simple" solution presently offered by utilities of installing massive gas-powered peaker plants to support an obsolete, centralized grid energy system leaves many unsolved variables that will haunt the Commission (and by extension the citizens of California) for decades to come.

Developing a procurement strategy that seeks opportunities to transform our current

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4 See http://www.nfcrc.uci.edu/3/ABOUTUS/overview/default.aspx.

5 See Samuelsen, Scott, "What Fuel Cells Bring to the Power Equation," Intelligent Utility (June 12, 2014), Para. 7 (http://www.intelligentutility.com/article/14/06/what-fuel-cells-bring-power-equation). The TIGER Station concerns the deployment of stationary power at a distribution substation of an electric utility. The Academy has concluded, based on its own independent research into the work of Dr. Samuelsen and others, that a fuel cell-based TIGER Station is now commercially viable.

energy infrastructure would be infinitely more far-sighted and in line with California's long-term sustainable energy vision than the obsolete, inefficient and dirty gas-fired resources that SCE is proposing to contract for in this Application.

Moreover, it is the Academy's contention in this proceeding that such an opportunity currently exists within the Moorpark Sub-Area. In particular, the Academy contends that the alleged reliability enhancements from the proposed refurbishment of the Ellwood facility is illusory, and will fail to provide ratepayers in the Santa Barbara Coastal Region (including, but not limited to, the communities of Carpinteria, Summerland, Montecito, Santa Barbara, and Goleta) with sufficient energy for 100% reliability when combined with net available capacity from sub-transmission lines under development as a backstop to the compromised high-voltage transmission lines currently providing power to the region.[6] Contrary to SCE's reactionary "old school" proposal, the only true solution for providing the Santa Barbara Coastal Region with reliable power is to develop local distributed power generation facilities utilizing fuel cell and battery technologies combined with renewable resources. Although the fuel cells may initially be operated using natural gas, such fuel cells are already able to operate on hydrogen produced from the electrolysis of water using renewable energy, and can be fully converted to this advanced, clean fuel source as soon as a sufficiently robust hydrogen production infrastructure is established.

The Commission should not stand for SCE's ill-conceived and reactionary proposal

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[6] SCE Testimony, "Basis for Establishing LCR Procurement Need," pp. 5-7.

to procure *still more* antiquated fossil fuel, dirty resources. Rather, the Commission should direct SCE to rely upon California's prestigious academic community of scholars such as UC Irvine's Dr. Scott Samuelsen, Dr. Lorenzo Kristov of the CAISO and others to meet the identified local capacity needs with advanced, versatile technologies, like fuel cell-powered microgrids, which are much more compatible with California's clean energy future than the antiquated, dirty gas-fired resources that SCE proposes to procure as the overwhelming percentage of the MWs that are the subject of this Application.

As part of its ongoing activities, the Academy has performed substantive research into the design and technologies underlying the development of a community microgrid[7] and looks forward to collaborating with the Commission and other stakeholders in developing a microgrid solution for the Moorpark Sub-Area capable of operating completely carbon-free on renewable energy, either directly or indirectly from hydrogen feedstocks. To provide additional context and clarification regarding the true circumstances underlying the reliability issues affecting the Moorpark Sub-Area, the Academy offers the following background information:

A. SCE'S MOORPARK SUB-AREA: A TALE OF TWO CITIES

From an energy perspective, a stark contrast appears to exist between the westerly portion of the Moorpark Sub-Area comprising the south coast of Santa Barbara County, ranging from Carpinteria northwards past Gaviota (the "Santa Barbara County Service

[7] In particular, the Academy has studied and will likely endorse and adopt many of the methodologies developed by the Clean Coalition (http://www.clean-coalition.org/our-work/community-microgrids/) in connection with various microgrid demonstration projects, including their collaboration with PG&E in the Hunter's Point Community Microgrid Project.

Area") and the more easterly portion of the Moorpark Sub-Area comprising the coastal region of Ventura County, which ranges southward from Ventura to Camarillo (the "Ventura County Service Area").

According to the California Energy Commission's Power Plant Database,[8] Santa Barbara County currently hosts a mere 145.11 MW of generating power, 54 MW of which resides at the Ellwood Generating Station, a facility SCE describes in its testimony as "a peaker facility that has historically been unreliable."[9] Excluding the unreliable Ellwood Generating Station effectively results in a net generating capacity of only 91.11 MW for the entire county, with remaining power imported into the region via compromised high-voltage transmission lines.[10]

At first glance, the Ventura County Service Area looks very different, with a total listed generating capacity of 2,432.11 MW. Appearances can be deceiving, however, and upon closer examination, it becomes evident that after subtracting the 573.3 MW capacity of the 55-year-old Mandalay plant and a whopping 1,612.80 MW of capacity from the 44-year-old Ormond Beach facility, a mere 245.98 MW of power generation remains within Ventura County from other sources. These two aging plants, comprising 89.89% of Ventura County's entire generating capacity, also utilize environmentally damaging "once

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8 California Energy Commission, Energy Almanac, California Power Plant Database (Excel File), (the "CEC Power Plant Database"). See http://energyalmanac.ca.gov/powerplants/Power_Plants.xlsx.

9 SCE Testimony, p. 46.

10 A.12-10-018, Application of Southern California Edison Company (U338E) for a Permit to Construct Electrical Facilities with Voltages between 50 kV and 200 kV: Santa Barbara County Reliability Project (the "SBCRP Application"), pp. 2-7 (http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M031/K723/31723142.PDF). See Also, SCE Testimony, pp. 5-7.

through cooling" technologies and by law, these two plants must be either retrofitted (at great cost) or be decommissioned *in just 6 years* by 2021. Furthermore, these old plants, originally constructed to provide continuous baseload power 24 hours a day, seven days a week, have been relegated for years to part-time operation as "peaker plants," providing power only in limited circumstances when deemed necessary by the CAISO to stabilize the state-wide transmission grid.

In this context, little difference exists between the Santa Barbara and Ventura County Service Areas from a reliability perspective: each service area has very little actual baseload generation capacity within proximity of its population centers and must therefore rely heavily on long-distance, high-voltage transmission lines to deliver the bulk of its power. This realization begs the question: if these two counties, comprising the entirety of SCE's Moorpark Sub-Area, have so little actual baseload power, why is SCE proposing to procure 314 MW of peaking power, most of which will exist to serve outside transmission grid needs? Wouldn't the entire Moorpark Sub-Area be better served by locating smaller power plants with both baseload and flexible capabilities in areas closer to ratepayers?

B. SCE'S PROPOSAL VIOLATES THE COMMISSION'S PRIMARY OBJECTIVES UNDERLYING THE LOADING ORDER.

In a footnote to its testimony, SCE restates the definition of Preferred Resources in California's Energy Action Plan and the preferential loading order that forms the basis for meeting the State's carbon reduction targets:

> "Preferred Resources are defined in the State's Energy Action Plan II, at page 2, as follows: 'The loading order identifies energy efficiency and demand response as the State's preferred means of meeting growing energy

> needs. After cost-effective [energy] efficiency and demand response, we rely on renewable sources of power and distributed generation, such as combined heat and power applications. To the extent [energy] efficiency, demand response, renewable resources, and distributed generation are unable to satisfy increasing energy and capacity needs, we support clean and efficient fossil-fired generation. Concurrently, the bulk electricity transmission grid and distribution facility infrastructure must be improved to support growing demand centers and the interconnection of new generation, both on the utility and customer side of the meter.'"[11]

The Academy believes that SCE, while going through the motions of procuring Preferred Resources, has not exhaustively researched potential applications of all available Preferred Resources to fill the identified reliability needs of the area and, instead, has placed the burden on manufacturers and suppliers of Preferred Resources to submit bids competitive with GFG resources such as single-cycle turbine plants, *which will almost certainly be allowed to operate outside their permitted emissions requirements for extended periods of time* under entirely foreseeable circumstances incorporating the failure of compromised or threatened transmission lines. As a result of SCE's *de minimis* efforts to include renewable resources in its planning, over 96% of the energy contracts comprising SCE's requested procurement involves construction of gas-fired generation, which does little to advance California towards its GHG reduction goals, and which will with near certainty continue to have substantial adverse impacts on public health due to the emission of criteria air pollutants in amounts far greater than SCE represents will occur.

For over 50 years, the citizens of Oxnard and Port Hueneme have lived with the unsightly blight of two massive utility plants located along their coastline. Back in 1959, when the Mandalay Plant commenced operation, the plant's presence was likely not

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[11] SCE Testimony, Introduction, p. 1, Footnote 2.

deemed intrusive as adjacent communities were not nearly as developed as they are today, with the outlying areas comprised almost entirely of unoccupied, open farmland. In 1971, the Ormond Beach facility, a baseload plant three times larger than Mandalay, was located farther south in the mostly undeveloped coastal area near Camarillo; during the four subsequent decades, however, development in the Ventura County coastal region has expanded exponentially, and high-density residential areas have been required to co-exist in close proximity to both plants for some time. The reality of this situation is that during the 55-year operating history of these plants, most of the power generated has not been for the direct benefit of the local residents, but for transmission through the grid to the Santa Barbara coastal region and other outlying communities. It is time that the citizens of Oxnard, Port Hueneme, and Camarillo, having suffered the burden of living with the emissions from these plants and denied the beauty of their coastline by the presence of these dominating structures, be made whole again. As more particularly described in subsection **Error! Reference source not found.**, the City of Oxnard has already voiced its opposition to the proposed 262 MW peaker plant through the filing of its Protest on January 6, 2015.

The Academy fervently believes that the only method of providing guaranteed reliability to all ratepayers, without the inequitable exposure to power plant emissions on the part of less influential communities, is to develop a plan whereby smaller, cleaner facilities are located adjacent to utility substations. Such facilities can provide both baseload and flexible power in a microgrid system comprised of businesses and residences

located within an appropriate radius. By developing a network of relatively autonomous microgrids, each community within the Moorpark Sub-Area will no longer be held hostage to the inevitable collapse and/or abandonment of our current 19th-century technology, which relies almost entirely upon a high-power, long-distance transmission infrastructure.

C. MOST IMPACTED COMMUNITIES HAVE NOT BEEN FULLY INFORMED, AND WHEN INFORMED, DO NOT SUPPORT SCE'S PROPOSED POWER PROCUREMENT.

Although SCE, in its testimony, has thoroughly documented its outreach to industry stakeholders and potential bidders to meet the LCR for the Moorpark Sub-Area, there is little evidence that the various communities located within the Moorpark Sub-Area have been engaged and provided an opportunity to participate in SCE's plans to provide "reliability" to their service area. The only documented dialogue and proceedings by SCE and its partner, NRG California South, LLC, concerns the city of Oxnard, a community that has co-existed with large power plants within its boundaries for over 55 years (the Mandalay Plant began operating in 1959 and the Ormond Beach Plant began operating in 1971)[12]. The result of this dialogue culminated in the Oxnard City Council promptly and formally establishing a 45-day moratorium against the development of any power plant larger than 25MW (the "Oxnard July 1st Meeting") [13], a moratorium that was subsequently

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12 See CEC Power Plant Database, infra.

13 City of Oxnard, City Council Meeting, Agenda Item K.1 (July 1, 2014) (the "Oxnard July 1st Meeting"): motion to adopt Ordinance No. 2882, "an interim urgency ordinance prohibiting the expansion of existing, or development of new, electrical generating facilities integrated with the Independent System Operator grid and with generating capacity above 25 MW within the Oxnard Coastal Zone pending studies and changes in the Local Coastal Program (LCP), land use plan and implementing zoning ordinance, and other applicable regulations." See http://oxnard.granicus.com/MediaPlayer.php?view_id=46&clip_id=2805&meta_id=141471.

extended to a full year on July 29, 2014 (the "Oxnard July 29th Meeting").[14] The Academy encourages the Commissioners to listen to the public testimony of citizens during the Oxnard July 29th Meeting concerning the proposed peaker plant in its entirety, but particularly directs the Commission's attention to closing comments made by Oxnard Mayor Tim Flynn regarding SCE's proposed 262MW peaker plant at Mandalay (emphasis added):

> "I don't believe NRG is a villain. I don't believe that the labor unions that are present herein this evening are bad for wanting more jobs here in the community, nor do I think that individuals that value the coastline and the value it has to the community are here speaking out on behalf of the coastline saying, largely, that industry is not compatible with the coastline . . . . . .
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> "[B]ut I kinda look at a power plant at the beach as kind of like inviting Godzilla to a wedding. . . . *We have a job to make sensible, reasonable decisions. And so the question I've had to ask myself - members of the council: am I being reasonable? Am I being balanced? Are we being balanced when it comes to providing energy for not just Oxnard but for other communities?*
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> "Mr. Curry mentioned right now [that] all of these power plants when they are running produce as much energy as the decommissioned San Onofre nuclear power plant. So just over 2,000 MW of energy and um, when these two plants are eventually decommissioned, if at some point they will be--and we're hoping in our lifetime they'll be decommissioned, if not sooner--that there are going to be energy needs that are going to have to be met in the state of California, and *the thing that has never, ever convinced me is that if we built a power plant and the energy of that power plant were to be reserved for the people that have to take on the responsibility, and some would say the burden of that power plant, would be reserved for this*

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[14] City of Oxnard, City Council Meeting, Agenda Item F.2, (July 29, 2014) (the "Oxnard July 29th Meeting"): motion to Adopt Ordinance No. 2884, "an ordinance to extend the moratorium prohibiting the expansion of existing, or development of new, electrical generating facilities within the Oxnard Coastal Zone pursuant to the SCE RFO process pending studies and changes in the LCP, zoning ordinances, and other land use regulations for a period of 10 months and 15 days from the date Ordinance No. 2882 would otherwise expire." See http://oxnard.granicus.com/MediaPlayer.php?view_id=46&clip_id=2834&meta_id=142114.

community, then one could make the argument: "Hey, we've seen blackout after brownout after blackout. Why wouldn't you want a guaranteed source of energy for your community?" If that were being offered, or something even close to that, I–you know maybe, maybe on some levels, and again I can't say on the coast, but it makes sense for a community to embrace a power plant, because they have a guaranteed source of energy. Not one of these power plants–ever–is a guaranteed, whether it's at the end of the line, the beginning of the line, the side of the line, none of these power plants at the beaches guarantee the people of Oxnard one ounce of energy. Period. (Energy isn't measured in ounces, right, it's megawatts, kilowatts, etc.) So, nothing here is for the people . . . .

"We have a promise of jobs, I understand that. We have a promise that it's going to be a cleaner power plant–I believe it would be a cleaner power plant–but *again I just go back to the fact: other than the people here in this town, which are the most valuable asset of this city–the most valuable asset in this city is the beach . . . . For me personally, it's about the beach. It's about the coastline. And that's why people come here. That's why probably every person in this room came here, because we want to live near and on the beach.*[15]

The Academy believes that Mayor Flynn's observations cut to the heart of the central issue underlying SCE's proposed "reliability" solution: that the current procurement as proposed by SCE is a band-aid approach that, while expedient and relatively inexpensive for SCE and helpful to the CAISO with respect to its current operation of California's antiquated grid system, does little in the final analysis to directly benefit the citizens of the communities located within the Moorpark Sub-Area. Operation of the proposed power plants for the direct benefit of citizens within the Moorpark Sub-Area would only arise under circumstances in which the anticipated failure of compromised transmission lines occurs, and the proposed peaking plants are deployed to

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15 Oxnard July 29th Meeting, video transcript, beginning at ~5:12:00 and ending at 5:16:14. Note: Excerpts transcribed from audio portion of video on Oxnard City Council Meeting website page. See also: http://oxnard.granicus.com/MediaPlayer.php?view_id=46&clip_id=2834&meta_id=142114.

cover the shortage, which would in turn require the proposed plants to operate much longer hours and emit much more carbon and fine particulates than originally intended under SCE's proposal. SCE alludes to this fact when it discusses the operating ranges of these peaking plants while avoiding GHG emission performance standards required of baseload plants under SB1368 (*emphasis* added):

> "In D.07-01-039, the Commission noted, "SB 1368 establishes a minimum performance requirement for any long term financial commitment for baseload generation that will be supplying power to California ratepayers. *The new law establishes that the GHG emissions rates for these facilities must be no higher than the GHG emissions rate of a CCGT powerplant."* The decision further explains:
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> > SB 1368 describes what types of generation and financial commitments will be subject to the EPS ("covered procurements"). Under SB 1368, the EPS applies to "baseload generation," but the requirement to comply with it is triggered only if there is a "long-term financial commitment" by an LSE. *The statute defines baseload generation as "electricity generation from a powerplant that is designed and intended to provide electricity at an annualized plant capacity factor of at least 60%."* . . . For baseload generation procured under contract, there is a long-term commitment when the LSE enters into "a new or renewed contract with a term of five or more years."
>
> "All of the LCR RFO contracts entered into for the Moorpark sub-area are greater than or equal to five years, and therefore, qualify as long-term financial commitments. Next, the EPS applies to baseload generation, which as explained above is "electricity generation from a powerplant that is designed and intended to provide electricity at an annualized plant capacity factor of at least 60%." *All of the LCR RFO contracts for the Moorpark sub-area are exempt from EPS regulations because they have an expected annualized capacity factor well below the threshold baseload capacity factor of 60 percent, above which the EPS rules would apply."*[16]

Bottom line: in a scenario in which a transmission line failure affects the Moorpark

[16] SCE Testimony, p. 58.

Sub-Area, these "peaker" plants will immediately begin operating at 60% of their full capacity, and it is very likely that SCE and CAISO would apply for an emergency exemption to increase these plants' capacity to 100% for the duration of the time needed to fix the transmission line failure.

In the case of the Santa Barbara Reliability Area, this process could take months, if not years, depending upon weather and ground conditions.[17] During that time, these inefficient carbon-emitting peaker plants will be spewing toxic and particulate matter 24/7 even though their installation is justified by the rationale that they will only operate a few hours each day. However, when and if there occurs a real reliability challenge in the Moorpark Sub-Area caused, for example, by a loss of transmission into the area, this rationale must be seen for what it is, namely, a deceptive ruse to avoid having to meet the emissions standards that would otherwise apply when the proposed "peaker" plants have to be operated essentially as baseload facilities.

The City of Oxnard has already filed its own protest to SCE's proposed procurement on January 6, 2015. The World Business Academy hereby incorporates the concerns and objectives expressed therein as part of its own protest and supports the City

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[17] SBCRP Application, p. 5 (emphasis added): "In particular, the loss of a single 220 kV tower could potentially result in prolonged outages to the ENA as repair crews would have to wait until the terrain was stabilized to repair or replace the tower, reconnect any interrupted lines and re-energize the system. *SCE estimated that it could take several weeks until terrain was deemed dry and stable enough to support the heavy equipment associated with tower repair or replacement activities*. In addition, even after terrain was deemed stable enough to support reconstruction and/or replacement activities, more time would be required to complete the actual replacement or reconstruction, potentially prolonging the timeframe that customers within the ENA may be subjected to rotating outages." The Academy believes that these circumstances, occurring during a heavy El Nino season involving multiple storm systems within short intervals, could preclude any repairs until late spring or early summer.

of Oxnard in its efforts to secure safe, clean power for its citizens that is located away from the coastline.

If the Commission is serious about serving the citizens of California who have entrusted it with the authority to implement a wide-ranging and progressive energy policy, it will place a premium on procuring power in a manner that confers economic AND environmental benefits to ratepayers within the Moorpark Sub-Area. Instead of approving natural gas peaking plants as a path of least resistance, the Commission should approve generating sources whose locational benefits directly serve the community. A microgrid system, with a distributed network of smaller generating plants utilizing fuel cell and battery technologies capable of transitioning to carbon-free operation, will provide the communities within the Moorpark Sub-Area with a lifetime guaranteed supply of energy that will be independent of the transmission grid. No large peaker plants would need to be developed, and the affected coastal area in Ventura County could be redeveloped into a tourist/recreation zone that brings revenues and jobs (*i.e.*, prosperity) to the surrounding communities. This increase in prosperity would be in addition to the jobs created from the development and maintenance of a distributed microgrid network.

D. LOCAL ELECTED OFFICIALS ARE CONCERNED ABOUT THE OUTCOME OF THIS PROCEEDING

Concurrent with the preparation of this protest, the Academy has also begun briefing numerous national, state and local elected officials regarding the nature of the energy reliability issues facing the Moorpark Sub-Area and SCE's proposed procurement of additional power, mostly in the form of gas-fired peaker plants, to meet long-term local

capacity requirements and solve related reliability issues by 2021. After being briefed, all such officials have expressed numerous concerns relating to the severe consequences to be visited upon their constituent ratepayers should the compromised transmission lines fail. These officials have also stated their opposition to the incomplete and environmentally retrograde nature of SCE's proposed power procurement as a solution to these issues, and they have expressed their support for the Academy's distributed microgrid solution utilizing fuel cell and battery technologies.

As a result of these briefings, the Academy has received a letter from Congresswoman Julia Brownley, a copy of which is attached hereto and incorporated herein as Attachment A. The Academy also anticipates receiving additional endorsements from other public officials representing ratepayer in the Moorpark Sub-Area that will be supportive of the Academy's positions in this proceeding, and the Academy hereby reserves the right to supplement this Protest when it receives these additional endorsements of its position in this proceeding from other elected public officials representing Santa Barbara and Ventura Counties.

E. SCE'S PROPOSAL IS MOSTLY "LEAST COST" AND VERY LITTLE "BEST FIT."

A standard phrase used in these proceedings is that an IOU will use a "least cost, best fit" methodology in valuing prospective bids.[18] By concentrating most of its procurement request in conventional gas-fired turbine technology, SCE has made clear that its emphasis is on "least cost" in the short term, and not what is the "best fit" for the

[18] SCE Testimony, "Valuation Process," p. 30.

ratepayers of Ventura and Santa Barbara Counties. And, in having proposed this wildly unbalanced mix of resources, SCE isn't even disclosing the probability that gas peaker plants of the type proposed to be procured on behalf of the public are likely to end up as "stranded assets" as sea levels rise and reduction of GHG emissions becomes an even more pressing social and political goal in the face of rapidly advancing climate deterioration.

F. SANTA BARBARA AND VENTURA COUNTIES DESERVE THE SAME FOCUS ON PREFERRED RESOURCES THAT SCE IS PROVIDING TO ORANGE COUNTY.

The Academy does not contend that SCE is not making *any* effort to procure preferred resources, nor is it contending that SCE is actively trying to *thwart* the development of preferred resources. To the contrary, in November 2013, following the closure of the San Onofre Nuclear Generating Station ("SONGS"), SCE "launched a multi-year, comprehensive study designed to determine whether preferred resources--including clean energy options such as energy efficiency, energy conservation, solar, wind, and energy storage--can meet the constantly changing demands for electricity in the central Orange County area."[19] In its literature concerning this program, SCE states (*emphasis* added):

> "The pilot attempts to address the needs of the community without SONGS *and the possible closure of ocean-cooled power plants* in the area. We are reaching out to our customers and working with the California Public Utilities Commission, the California Independent System Operator, non-governmental agencies and vendors on the pilot. We believe a successful pilot will help us find a way to reduce or eliminate the need to construct new

[19] SCE Website, "Our Preferred Resources Pilot - Meeting Local Energy Needs in Alternative Ways."

> natural gas plants in the pilot area, and will help to design the clean energy grid of the future."[20]

The Academy lauds the intentions of SCE, the CPUC, and the CAISO to embark on this effort to "determine the correct mix and proper timing for adding preferred resources to meet local customer demand."[21] Unfortunately, according to the timeline listed in its literature, the project is not scheduled to conclude until 2022, effectively delaying any serious attempts to procure significant preferred resources for other areas in need for at least seven more years – one more year beyond when the Mandalay and Ormond Beach power facilities are required to close. Furthermore, SCE states that "[t]he first major milestone will occur at the end of 2017 when SCE will use the results of the 2014 pilot to decide whether new gas-fired power plants are needed to maintain reliable service in the pilot area."[22] Again, from SCE's literature on the pilot project (*emphasis* added):

> "If the pilot is successful, it can help ensure reliable electric service and help prevent outages if there is an electrical disturbance in the area. *Use of an effective preferred resources portfolio may also reduce or eliminate the need for new gas-fired power plants in the pilot area, avoiding greenhouse gas and other emissions.* Customers who choose to participate will also have tools to better manage their energy use and energy costs."[23]

This statement begs the question: why are ratepayers in Orange County afforded this level of care and consideration, while ratepayers in Santa Barbara and Ventura Counties are given a "take it or leave it" option of approving a procurement request comprised of 96% natural gas-fired power plants: the very type of antiquated, long-term

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20 SCE, "Preferred Resources Pilot – Process," p. 4 (June 2014)

21 SCE, "Preferred Resources Pilot – Frequently Asked Questions," p. 1 (June 2014) ("PRP-FAQ").

22 SCE PRP-FAQ, "Why is a pilot needed and how long will it last?", 4th paragraph.

23 SCE PRP-FAQ, "How will customers benefit?"

carbon-emitting resource the Orange County pilot project seeks to avoid? The fundamental answer concerns timing, and perhaps something even less attractive: the economic differences between the affluent neighborhoods of Orange County and the working class communities of Oxnard and Port Hueneme.

Whereas SCE has already completed the RFO process with respect to the Moorpark Sub-Area, the process for the pilot project in Orange County just commenced on November 20, 2014. SCE's seriousness in expediting the Orange County pilot project process is evidenced by the accelerated timetable for that project, with all offers to be submitted by April 1, 2015 and all PPAs signed by May 22, 2015.[24] If SCE can expedite its process for Orange County, the Academy believes it can and should also provide the same benefit for ratepayers in Ventura and Santa Barbara Counties, preferably on a concurrent schedule and timeline.

One of the World Business Academy's landmark publications is its "Clean Energy Moonshot" vision statement.[25] As is evident from the title, the basic underlying premise is that if the State of California tackles the problem of transitioning to 100% renewable energy with the same energy and focus as the United States did following John F. Kennedy's epic challenge to send a man to the moon by the end of the decade, then such an objective could be achieved within ten years of implementation.

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24 SCE PRP RFO Website, RFO Schedule, https://sceprprfo.accionpower.com/_scedgpr_1401/calendar.asp.

25 World Business Academy, "Clean Energy Moonshot." The Academy encourages all stakeholders to view the online video, overview and presentation that details the parameters and logistics for implementing this bold program. See http://worldbusiness.org/clean-energy-moonshot/.

The Academy invites the Commission and participating stakeholders to consider what President Kennedy would have thought if NASA had responded to his moonshot challenge with a cautionary statement that it would take a *study* for nine out of the ten years to see if such a task was even possible. The Academy believes that all stakeholders in this proceeding would agree that such a response would not have been either acceptable or accepted. And, as the record reflects, the people of this nation did achieve President Kennedy's lofty goals, thereby launching an era of technological innovation in Silicon Valley and the aerospace industry that continues to power California's economy to the present day.

Given the urgency to address climate change and increased GHG reduction targets expressed in Gov. Brown's Inaugural and State of the State Address on January 5th, the stark conclusions reached by the Intergovernmental Panel on Climate Change ("IPCC") in its most recent report issued in November, 2014,[26] and the historical trend of accelerating consequences that have attended the release of these and other reports concerning climate change over the years, it should have become clear by now to all stakeholders and regulatory agencies in the energy industry that *time is of the essence*. We simply do not have the luxury of engaging in a nine-year study to "determine whether preferred resources . . . can meet the constantly changing demands for electricity in the central

[26] IPCC, 2014: Summary for policymakers. In: Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Field, C.B., V.R. Barros, D.J. Dokken, K.J. Mach, M.D. Mastrandrea, T.E. Bilir, M. Chatterjee, K.L. Ebi, Y.O. Estrada, R.C. Genova, B. Girma, E.S. Kissel, A.N. Levy, S. MacCracken, P.R. Mastrandrea, and L.L. White (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 1-32. See http://www.ipcc.ch/pdf/assessment-report/ar5/wg2/ar5_wgII_spm_en.pdf. For more general information, see http://www.ipcc.ch/report/ar5/wg2/

Orange County area."[27] Instead, SCE and other IOUs must approach this issue from the perspective of determining how preferred resources *should* be capable of meeting constantly changing demands for electricity and how can we creatively leverage existing technologies to achieve this result. Only after all such options have been thoroughly exhausted should IOUs resort to developing conventional, GHG-emitting resources.

III. NOTICE

Service of notices, orders, and other communications and correspondence in this proceeding should be directed to the Academy's representatives at the addresses set forth below:

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[27] SCE Website, "Our Preferred Resources Pilot - Meeting Local Energy Needs in Alternative Ways."

IV. CONCLUSION

For the reasons stated above, the Academy respectfully urges the Commission to deny SCE's Application insofar as it seeks Commission approval of a 262 MW gas-fired combustion turbine from Oxnard and the refurbishment of the 54MW Ellwood Generating Station with a similar gas-fired combustion turbine. Rather, the Commission should direct SCE to institute an expedited RFP process, similar in scope and duration to the Preferred Resources Pilot Project for Orange County, in order to meet the identified local capacity need in a manner that is more consistent with the State's clearly defined long-term, clean energy goals.

Respectfully submitted,

By: 

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Counsel to the World Business Academy

January 12, 2015

ATTACHMENT A

JULIA BROWNLEY
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MEMBER OF CONGRESS
http://juliabrownley.house.gov

Congress of the United States
House of Representatives
Washington, DC 20515–0526

COMMITTEE ON VETERANS' AFFAIRS
RANKING MEMBER, SUBCOMMITTEE ON HEALTH
SUBCOMMITTEE ON ECONOMIC OPPORTUNITY

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
SUBCOMMITTEE ON ENVIRONMENT
SUBCOMMITTEE ON SPACE

December 22, 2014

Rinaldo Brutoco
World Business Academy
2020 Alameda Padre Serra
Suite 135
Santa Barbara, CA 93103-1757

Dear Mr. Brutoco :

Thank you for taking the time to update me on your ongoing work related to clean, renewable energy and microgrids. It was a pleasure to speak with you again.

As we discussed, I share your interest in the development of clean, renewable, reliable energy in Southern California. As a member of the Science, Space, and Technology Committee's Environment Subcommittee, I have been working in Congress to protect and preserve our environment and natural resources for future generations. Investments in clean, renewable, and sustainable energy will not only reduce our dependence on fossil fuels, but it will also counterbalance the effects of climate change on our economy and in our communities.

Like you, I also agree that maintaining an adequate, reliable supply of electricity in Ventura County is of paramount importance. However, I have serious concerns about proposals to build new power plants along the California coast, particularly in Oxnard. Not only am I skeptical about the need for this new generating capacity, but I also believe that we should be looking at clean, renewable energy sources, like solar and wind, before considering new fossil fuel powered facilities.

Furthermore, I strongly believe that the California Public Utilities Commission (CPUC) should take into account the views of local communities when siting new facilities. The environmental justice impacts of a new power plant in Oxnard cannot be overstated. Roughly 85 percent of the residents of Oxnard are people of color with 17 percent of the community earning below the federal poverty level. Oxnard is a community that is enriched by a diverse population of hard-working people who are looking for a good life for their families. That is why it is concerning to me that this community is being considered once again for another power plant. Oxnard residents are entitled to clean water, clean air, clean and accessible beaches, and a healthy environment. Yet, Oxnard's beautiful coast has been a target over the decades for dirty industrial uses, including two existing power plants and the Halaco superfund site, which not only blight views, but endanger the public health of the community. Restoration of the Oxnard coastline would be an economic boon to the entire region, bringing new jobs and opportunities to the area, and improving the public health of the adjacent communities.

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Additionally, when siting new facilities, the CPUC must also take into account the serious problem of sea level rise along our coastline. The life cycle of a new power plant is many decades long, and we should not permit new power plants, or other types of industrial development, along coastal areas that could be inundated with sea water over the next century.

I also appreciate knowing of your work to develop microgrids. At the federal level, both at the Department of Energy (DOE) and in Congress, there is a great deal of interest in these innovative approaches to electricity delivery. The DOE Office of Electricity Delivery and Energy Reliability has been working to advance a portfolio of technology development and deployment programs intended to modernize our nation's energy sector, including microgrids and distributed generation. Supporting research and development of new technologies will help to place them on a path to commercialization. That is why I am so pleased to learn about the local efforts underway to advance these technologies in California, which have the potential to improve the reliability of energy supplies and prevent power disruptions.

Again, I appreciated the update on your work related to clean, renewable energy and microgrids. Please keep me posted as you work with our local communities, the CPUC, and private sector stakeholders.

Sincerely,

JULIA BROWNLEY
Member of Congress